MULTIMEDIA UNIVERSITY

T2, 2018/2019

BCN 7104 – COMPUTER NETWORK & INTERNET PROGRAMMING

PROGRAMMING
(MBA Full Time)

28 JANUARY 2019
9.00 a.m – 12.00 noon
(3 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 7 pages including this cover page with 5 questions.

2. Answer **ALL** questions

3. Marks and distribution of the marks for each question is given.

4. Answers should be written in the question paper itself.

Question 1

Explain key aspects of transport application services needed in terms of Data Loss, Timing and Bandwidth. Select relevant applications to support your answer. You may use the table below.

(Total: 20 marks)

Answer:

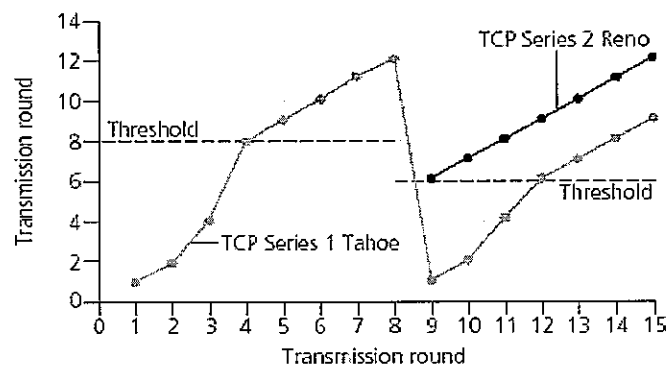| Application	Data Loss	Bandwidth	Timing

Question 2

a. TCP uses the following three mechanisms for congestion control i.e. AIMD, Slow Start and conservative after timeout events. Explain each mechanism briefly.

(10 marks)

b. The diagram below illustrates TCP Tahoe and TCP Reno in action. Compare and contrast these two mechanisms.

(10 marks)

(Total: 20 marks)

Answer:

Question 3

List the five layers of the Internet protocol stack from top to bottom and explain the
principle responsibilities of each layer?   **(Total: 20 marks)**

Answer:

Continued ....

Question 4

Find the dB value of the following parameters, giving the correct units.

(a) 1,700 W referenced to 1 W   (5 marks)

(b) 11.7 W referenced to 1 mW   (5 marks)

(c) 810 K referenced to 1 K   (5 marks)

(d) A signal transmitted from A to B arrives at B at one seventeenth of the power level that it was transmitted from A. What was the reduction in the power level received at B in dB compared with the transmitted power level at A?   (5 marks)

(Total: 20 marks)

Answer:

Continued ....

Question 5

Given the following condition answer the 2 questions that follow?

Condition:
{File size = F bits   Two links and one switch
transmission rate = R bps
Host A segments the file into segments of S bits and 48 bits of headers to each segments,
that is, Packet size: $L = (48 + S)$ bits   D queue = 2 msec
packets: F/S   No propagation delays}

a.   What is the delay in moving a packet from Host A to Host B?   (12 marks)
b.   What value of S minimizes this delay?   (8 marks)

(Total: 20 marks)

Answer:

Continued ....